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(19)(CA) **APPLICATION FOR CANADIAN PATENT** (12)

(54) Floor Tiles Adhesive Compound Spreader

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(73) Same as inventor

(57) 13 Claims

Notice: This application is as filed and may therefore contain an incomplete specification.

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ABSTRACT OF THE DISCLOSURE

The portable spreader is used for spreading floor tiles adhesive compound evenly in an easy and expeditious manner over a large area. It has a simple frame structure provided with driving wheels for rolling over the ground and an adjustable spreading blade for spreading the adhesive compound evenly over the ground to be tiled. The spreader may be operated by the operator in a standing position, and the floor tiles may be laid over the adhesive compound coating thus provided immediately following the spreader after it has spread the adhesive compound over the ground so that floor tiles can be laid evenly and quickly over a large area with ease.

This invention relates to spreaders and particularly to a portable spreader for applying floor tiles installation material such as adhesive compound in an expeditious and easy manner.

In the installation of floor tiles, the adhesive compound must first be spread over the ground evenly before the tiles can be laid thereon so that a level tiled ground can be obtained. Heretofore, the spreading of the adhesive compound has been achieved by pouring the compound onto the ground and then spreading it manually with a trowel by hand. The workman must perform the spreading of the adhesive compound in the crouching or kneeling position and can only work on an area no larger than the reach of the spreading arm. Such operation not only is back-breaking, messy and tiring to carry out but is extremely dependent on the manual skill of the workman in order to spread the adhesive compound evenly. Thus, it has been extremely labour intensive in the installation of floor tiles particularly over a large area in a commercial building. Furthermore, only an area of the reach of the spreading arm, namely, about twenty-four square feet, or an area about four feet by six feet, can be worked on at a time, and tiles must be laid over such already worked area shortly after the spreading of the adhesive compound before the compound starts to skin. Inherently, due to human error, and that it is difficult to judge the thickness of the adhesive compound between the area already covered with tiles and the area on which the adhesive compound is yet to be applied, unevenness of the adhesive compound exists between the worked areas, resulting in unevenness between the tiles in different worked areas.

The above problems are alleviated with the use of the spreader of the present invention, the principal object of which is to enable the adhesive compound to be applied quickly and easily.

Another object of the present invention is to provide a spreader which can applied an even layer of floor tiles adhesive compound over a large area without unevenness between one worked area to the next worked area.

Another object of the present invention is to provide an adhesive compound spreader which is portable and simple in structure.

It is yet another object of the present invention to provide a spreader which may be used to spread floor tiles adhesive compound on the ground while the tiles are being laid so as to expedite the operation of the laying of the floor tiles.

These and other objects are achieved by a portable spreader comprising, a substantially rectangular vertical back panel member having a top edge and two side edges, two side panel members having a rear edge therein secured to the two side edges of the back panel member. The side panel member has a front edge therein. Two tubular members are secured to the back panel member and extend vertically over the top edge of the back panel member. Two securing means are provided at the front edge of the side panel members. A spreading panel member is removably secured to the front edge of the side panel members with the securing means. The spreading panel member has a lower edge with a plurality of teeth members formed therein and extending substantially parallel to the ground. Two wheel members are secured to the tubular members to facilitate the spreader from being pulled easily over the ground on which the floor tiles are to be laid.

Figure 1 is an isometric perspective elevation view of the spreader according to the present invention.

Figure 2 is a partial sectional side elevation view of the spreader according to the present invention along section line II-II of Figure 1.

Figure 3 is a top elevation view of the spreader according to the present invention with the weight support plate removed and without the wheels.

Figure 4 is a front elevation view of the spreading panel member suitable for applying adhesive compound for installing vinyl floor tiles.

With reference to the drawings wherein like reference numerals designate corresponding parts in several views, the spreader 10 has a main frame consisting of a generally rectangular back panel 11 which extends vertically from the ground to a height of about three feet. In order to facilitate easy handling of the spreader, the back panel 11 may slant slightly backwards as best shown in Figure 2. Two side panels 12 and 13 which may be about a foot high and about three feet long are respectively having their rear edges secured to the lower side edges of the back panel 11 as best shown in Figure 1, and in association with the back panel 11 forming the three sides of the main compartment 14 for holding the adhesive compound or other material to be spread over the ground. The front edge of the side panels 12 and 13 preferably have an inverted L-shaped such that the lower edge portion is recessed from the top edge portion as shown in Figure 2.

Two L-shaped brackets 15 and 16 are provided at the recessed front edges of the side panels 12 and 13, and a front panel 17 may be removably mounted onto the recessed front edges of the side panels 12 and 13 by securing bolts 18 and 19 in association with the brackets 15 and 16 respectively. Horizontally formed slot openings 20 and 21 may be provided in the front panel 17 to facilitate the easy securement of the front panel 17 to the side panels 12 and 13. The lower edge of the front panel 17 may be spaced from the ground about three inches. The front panel 17 forms the front panel of the main compartment 14. A horizontally

positioned V-shaped guide 22 is secured to the rear surface of the front panel 17 and extends backwards from the front panel 17 towards the back panel 11 within the main compartment 14. The bottom edge of the V-shaped guide 22 abuts the ground. The V-shaped guide 22 has two legs 23 and 24 respectively and the free end of which are secured to the rear surface of the front panel 17. A spreading blade 25 is removably and adjustably secured to the lower edge portion of the front panel 17 with securing bolts 26, 27 and 28. Vertical slot openings 29, 30 and 31 are formed in the spreading blade 25 to allow it to be adjusted upwards or downwards selectively with respect to the front panel 17. An outwardly extending flange 32 is provided at the upper edge of the spreading blade 25 to assist in the lifting or lowering of the spreading blade 25 with respect to the front panel 17 during adjustment. A plurality of teeth 33 are provided at the lower edge of the spreading blade 25.

Two tubular members 34 and 35 are respectively secured to the vertical side edge portions of the back panel 11, and two generally L-shaped handles 36 and 37 are adjustably mounted by inserting into the tubular members 34 and 35 respectively. A plurality of openings 38 and associated openings 39 may be formed in the tubular members 34, 35 and handles 36, 37 respectively so that the handles may be latched at a selected height with respect to the tubular members 34 and 35 with the latch pins inserted through selected ones of these openings. Two driving wheel assemblies 40 and 41 are provided for the spreader so that it can be rolled over the ground. The wheel assemblies 40 and 41 may be secured to the tubular members 34 and 35 respectively as shown in Figure 1.

Two hand tools mounting rings 42 and 43 may be provided on the tubular members 34 and 35 for convenient use. A rear view mirror 44 is mounted on the handle 36 or 37 to assist the user from viewing

the area behind the spreader when pulling the latter over the ground.

A horizontal weight supporting panel 45 may be positioned over the front top edge of the side panels 12 and 13. Weight supporting panel 45 may be secured to the side panels 12 and 13 with securing bolts 46 and 47 in cooperation with brackets 48 and 49 respectively as shown in Figure 3, provided at the top edge of the side panels 12 and 13. Two slot openings 50 and 51 are formed in the weight supporting panel 45 to enhance the ease in the securement of the weight supporting panel 45 to the side panels 12 and 13. A weight may be placed over the weight supporting panel 45 during use to maintain the spreading blade 25 from abutting the ground to be coated. Normally, the container for holding the adhesive compound together with the adhesive compound therein provide the sufficient weight for the purpose. Thus, a container full of adhesive compound for providing the required weight is always conveniently available on the spreader for refilling it during use.

A spreading blade assembly suitable for spreading the adhesive compound on the ground for laying vinyl floor tiles is shown in Figure 4. The spreading blade assembly in this embodiment has much finer teeth 52 formed at its bottom edge. The spreading blade 25 is also mounted to the front panel 22 through a plurality of spring mounting bolts 53 such that the springs will urge the spreading blade 25 downwards with a greater force to ascertain that a thin coating of the adhesive compound is provided on the ground to accept the vinyl floor tiles.

In use, spreader in located over the ground to be tiled, and the spreading blade 25 is adjusted to provide the selected thickness of the adhesive compound spread to be provided. The adhesive compound is then poured into the main compartment 14 through the opening between the weight supporting panel 45 and the

back panel 11. The spreader is pulled backwards over the ground on the driving wheels 40 and 41, thus the adhesive compound is spread over the ground through the teeth 33 to provide the desired thickness evenly with a scored pattern required for the laying of the tiles already provided therein. Since the adhesive compound is coated evenly over the ground already travelled, the tiles may be placed onto the adhesive on the ground immediately following the spreader. In this manner, rows of tiles may be consecutively laid over the ground immediately following the spreader easily and expeditiously to provide an even tiled floor.

A trough 54 is provided such that when the spreader is not in use, the blade assembly may be immersed in water or a cleaning fluid for cleaning the assembly or for maintaining the assembly in a clean condition for ready use.

While this invention has been described as having preferred design, it is understood that it is capable of further modification, uses and/or adaptations of the invention following in general the principle of the invention and including such departures from the present disclosure as come within known or customary practice in the art to which the invention pertains, and fall within the scope of the invention of the limits of the appended claims.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A portable spreader for applying floor tiles adhesive over a relatively large area on the ground comprising,

a substantially rectangular vertical back panel member having a top edge and two side edges,

two side panel members having a rear edge therein secured to said two side edges of said back panel member, said side panel members having a front edge therein,

two tubular members secured to said back panel member and extending vertically over said top edge of said back panel member,

two securing means provided at said front edge of said side panel members,

a front panel member removably secured to said front edge of said side panel members with said securing means,

a spreading blade member removably secured to said front panel member, said spreading blade member having a lower edge with a plurality of teeth members formed therein and extending substantially parallel to the ground,

two wheel members secured to said tubular members.

2. A spreader according to Claim 1 including a substantially V-shaped horizontal guide member having two leg members therein extending from said front panel member backwards towards said back panel member, and said leg members having end edges therein secured to said front panel member.

3. A spreader according to Claim 2 including two slot openings formed substantially in a vertical manner in said spreading blade member, and said spreading blade member being removably and adjustably secured to said front panel member by additional securing means whereby said spreading blade member is adjustable to space said teeth members from the ground at a selected height.

4. A spreader according to Claim 3 including a weight supporting panel member secured to said top edge of said side panel members and operative for supporting a selected weight for weighing the spreader downwards on the ground.

5. A spreader according to Claim 4 including two handle means adjustably mounted in said tubular members.

6. A spreader according to Claim 5 including two vertical slot openings formed in said spreading blade member, and said additional securing means extending through said slot openings to secure said spreading blade member to said front panel member.

7. A spreader according to Claim 6 including a horizontal outwardly extending upper flange to facilitate adjustment of said spreading blade member with respect to said front panel member.

8. A spreader according to Claim 7 wherein said spreading blade member is secured to said front panel member through a plurality of spring securing means for providing additional downward force for urging said teeth member of said spreading blade member in intimate contact with the ground.

9. A portable spreader for applying floor tiles adhesive over a relatively large area on the ground comprising,

a substantially rectangular vertical back panel member having a top edge and two side edges,

two side panel members having a rear edge therein secured to said two side edges of said back panel member, said side panel members having an inverted L-shaped front edge with a lower edge portion therein recessed from a upper edge portion,

two securing bracket means mounted at said upper edge portion of said side panel members,

a front panel member removably secured to said upper edge portion of said side panel members by securing means engaging with said securing bracket means,

a spreading blade member having two vertical slot openings formed therein, and said spreading blade member being removably secured to said front panel member by additional securing means extending through said slot openings to engage with said front panel member,

a V-shaped horizontal guide member having two leg members therein secured to said front panel member, and said guide member extending from said front panel member backwards towards said back panel member,

two vertical tubular means mounted on said back panel member and extending upwards therefrom,

two driving wheel members rotatably mounted on said tubular means, and

handle means mounted on said tubular means and operative for rolling the spreader over the ground.

10. A spreader according to Claim 9 wherein said back panel member is slanting backwards at the top.

11. A spreader according to Claim 10 including a rear view mirror means mounted on said handle means.

12. A spreader according to Claim 11 wherein said handle means are removably mounted by inserting into said tubular means, and a plurality of mounting openings are formed in said handle means, and a plurality of associated mounting openings are formed in said tubular means whereby the height of said handle means extending above said tubular means is adjustable by inserting a latch pin through selected mounting openings in said handle means and selected associated mounting openings in said tubular means.

13. A spreader according to Claim 12 wherein said front panel member is mounted to the recessed lower edge portion of said front edge of said side panel members.

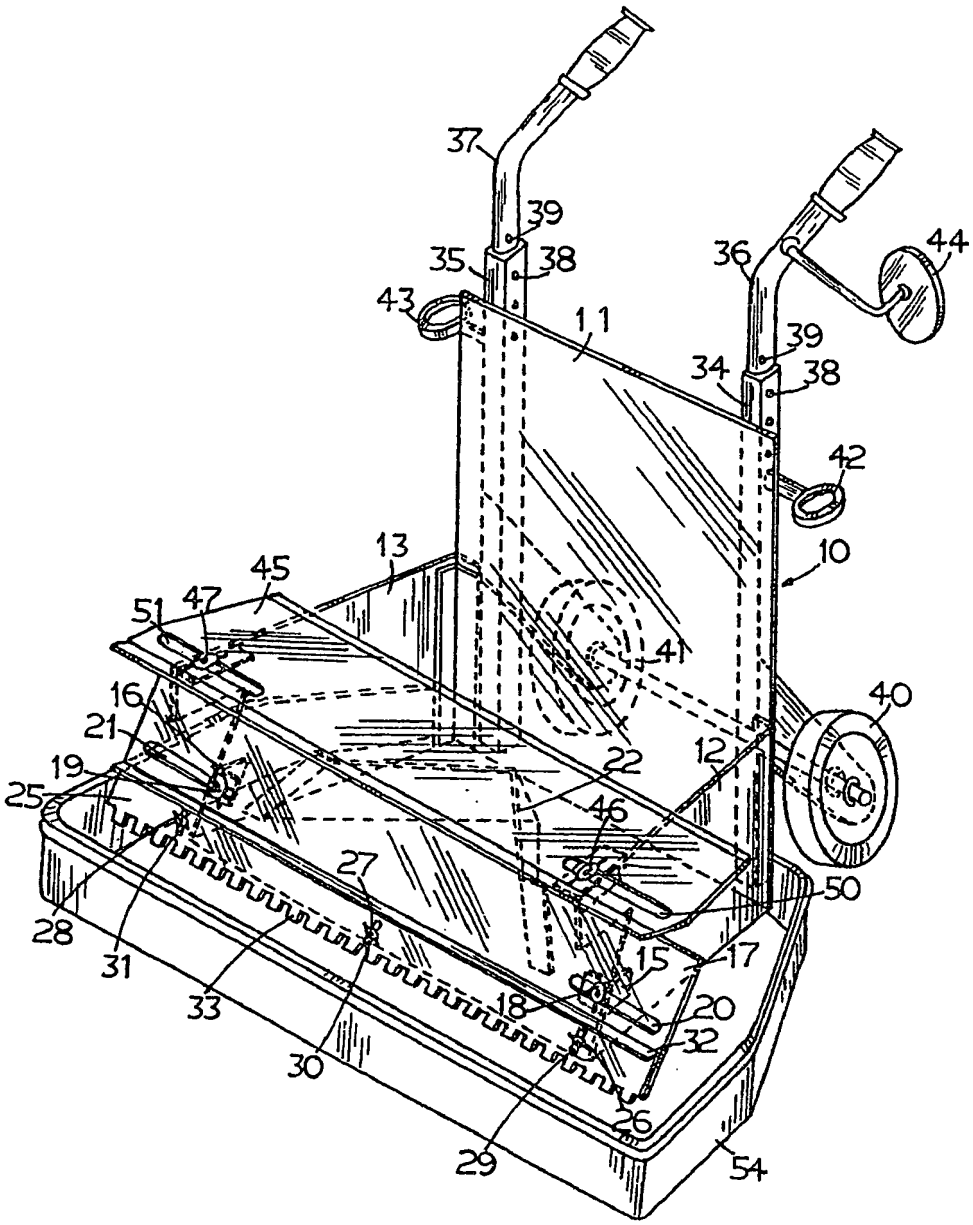

Fig. 1.

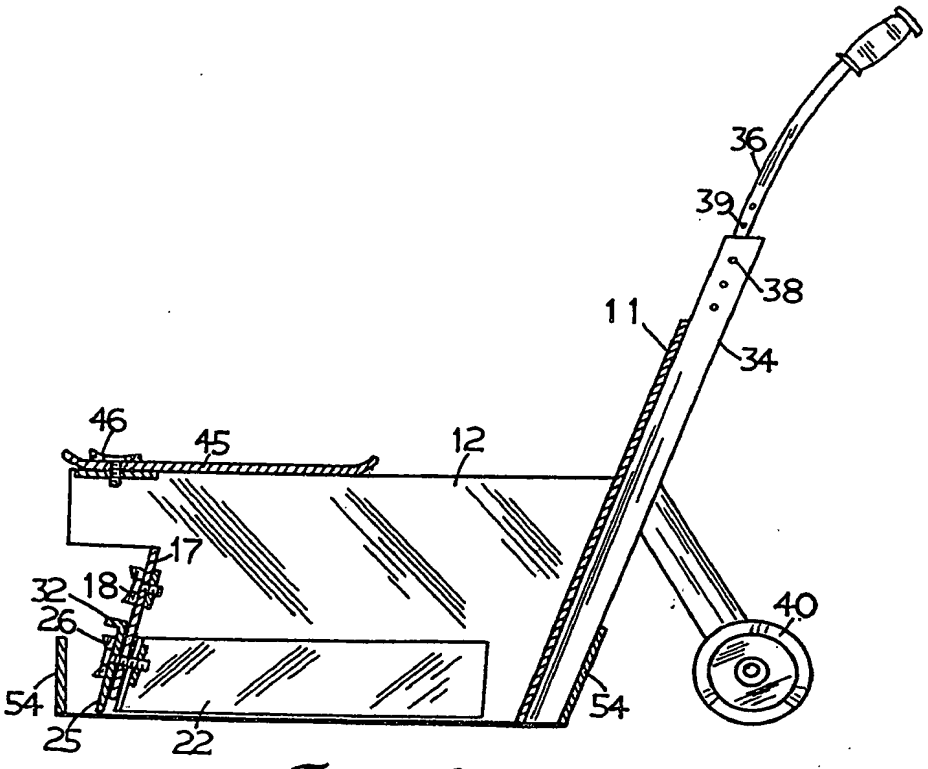

Fig. 2.

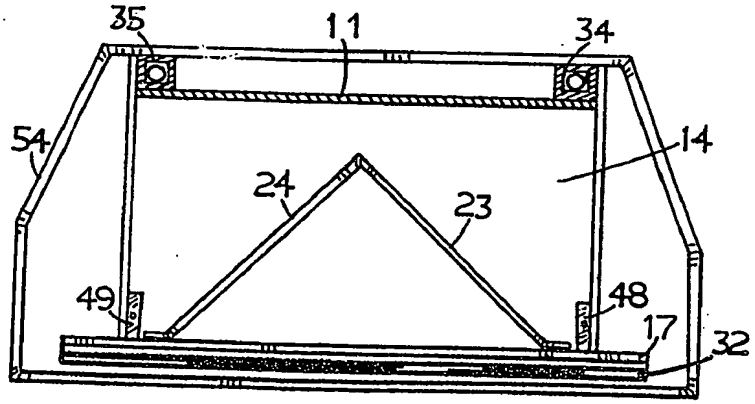

Fig. 3.

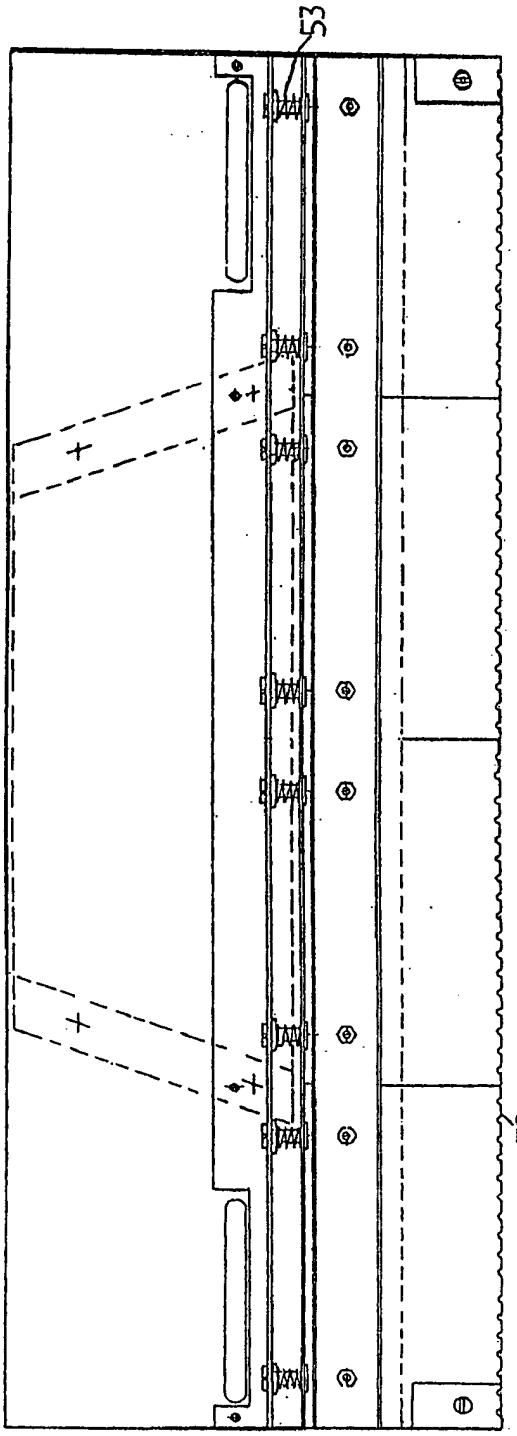

Fig. 4.